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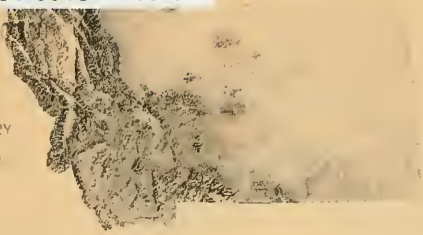
Montana GIS News



Intermountain GIS Users' Conference; Kalispell 2000
May 1-4, 2000

By Catherine McCoy

Over 400 attendees will converge to exchange ideas, network with industry peers, and view the latest in GIS technologic advances by many exhibitors. The event is "The Intermountain GIS Users' Conference; Kalispell, 2000," which will be held at the Cavanaugh's Inn at Kalispell Center, May 1-4, 2000. This year's conference theme is "The GeoSpatial New West" and will have you contemplating what you want your GIS to reflect in the year 2000, as well as in the years to come. Consider, for one, the steady regional transition of our traditional dependence upon agricultural and natural resources to evermore reliance on technology and information services.

This popular conference continues to grow and develop alongside developments in the industry of GIS. The Montana GIS Users' Group and the Northern Rockies Chapter of URISA have expanded year 2000 events to include more tracks, more workshops, very dynamic speakers, and let's not forget...more fun!

You can look forward to hearing Mr. Steven Hock, who has received widespread recognition for his leadership role in addressing major systemic problems such as Y2K, including testimony before the United States Senate, appearances on ABC World News Tonight, CNBC, MSNBC, PBS and other national and international broadcasts. He has also received coverage in prominent business, technological and legal periodicals such as The New York Times, Forbes, Business Week, Newsweek, Time, The Washington Post, CIO Magazine, the ABA Journal, Corporate Legal Times and many other publications. Over the past five years he has worked with organizations in virtually all industry segments, and in government.

We'll also welcome Mr. SJ Camarata, Jr. Mr. Camarata is Director, Corporate Strategies at ESRI, Inc. He works closely with ESRI's CEO and focuses on ESRI's worldwide corporate strategies and directions. He has been one of ESRI's key executives and has been instrumental in its growth and development since he started with the company in 1984. Through 1996 he served as a Director of ESRI and managed ESRI's worldwide expansion, including all corporate

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operations related to sales, marketing and business development. Prior to ESRI, he was co-founder and vice president of IRIS International, Inc., a GIS consulting and software development company in Washington, D.C. and was a research associate at Utah State University. He has a B.S. from the University of Utah and an MLA from Utah State University.

Concurrent tracks this year will include Natural Resources, Local Government, Native American Issues, New Technology, Vendor, Education, Health & Human Safety, and Remote Sensing. Abstracts for paper presentation submittals are due on or before February 14, 2000. If you did not receive a call for papers notice and registration form with your Fall 1999 Edition of Montana GIS News, you can print it from the conference website, http://www.gis.umt.edu/gisconf or contact Pam Smith, psmith@state.mt.us or Catherine McCoy, cmmcoy@esri.com.

Conference registration forms are enclosed along with the Intermountain GIS Conference announcement. You can expect to pay $125 if you get your registration form in by April 10, 2000. Late registrants pay $150. All registrations cover lunch and dinner on Monday and Tuesday, a T-shirt you'll be proud to own with this year's conference logo design on it, and all conference materials. See the great conference logo on the conference website (noted above)! Hotel reservations can be made by calling 1-800-325-4000 (To get the discount rate, specify that you are with the GIS conference).

Top off those days of enlightening workshops and presentations by attending Public Night on Monday. On Tuesday, there will be a dinner banquet, followed by a live band. You really won't want to miss any of these evening events! Public Night is a festive event in which several area school groups participate in various geography and mapping activities designed for the K-12 skill levels. You'll enjoy watching kids really get excited about GIS, and even go so far as to 'show-up' adult GIS professionals in their own knowledge of the technology and industry!

So have a good look at the Intermountain GIS Users' Conference announcement that will detail all the great events happening! And remember, now is the time to start talking about the *Intermountain GIS Users' Conference; Kalispell, 2000* with your colleagues, teachers, all the University/K-12 students you know...everyone! Thanks in advance for your participation. ■

Conference Scholarships Available for Students and Educators

By Mike Frankovich

Scholarships to the 2000 Intermountain GIS Users' Conference in Kalispell will be available again this year for students enrolled in a course of study that incorporates GIS/GPS as part of the curriculum. A total of 20 scholarships will be available. Those receiving scholarships will be asked to work at various assigned tasks at the conference. The Conference registration fee will be waived, however students wishing to attend workshops must pay the cost of the workshop. In addition students will receive a T-shirt and be admitted to the banquet dinner. Lodging will be the student's responsibility.

To apply, students should submit a letter describing their course of study with a recommendation from the program advisor. The conference will be held May 1st – 4th in Kalispell, MT, and the application deadline is April 10, 2000. Selection will be made in the order received. E-mail your application letter to Mike Frankovich Mfrankovich@mtech.edu

In addition to student scholarships, there will be 10 scholarships available to K-12 teachers who have an interest in GIS/GPS. These scholarships will allow a teacher to attend the workshop of their choice or one day of the conference. Teachers will not be expected to work at the conference.

To apply send a letter describing how GIS is or could be a part of the classroom curriculum in which you teach. Selection will be made in the order received. E-mail application letter to Mike Frankovich Mfrankovich@mtech.ed ■

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The GeoSpatial Conference

NEW WEST

INTERMOUNTAIN GIS USERS' CONFERENCE ▶ KALISPELL, MONTANA ▶ KALISPELL 2000

MAY 1–4, 2000

The "New West" is no longer a trendy catchphrase but an accepted part of our region's lexicon. It has come to represent the transformation of the West from dependence upon agricultural and natural resources to increased reliance on technology and information services. The Intermountain GIS Users' Conference will address many of the issues involved in this transformation and help promote intelligent uses for GIS into the 21st Century.

Concurrent sessions will feature natural resources, local government, Native American issues, remote sensing, new technology, education, public health and safety, vendor presentations, and more.

This year's GIS Users' conference marks the fourth annual meeting attended jointly by Montana and Idaho, and is again sponsored by the Montana GIS Users' Group and the Northern Rockies Chapter of URISA. Check the conference website for scheduling updates and other information.

Register By April 10th

CONFERENCE HIGHLIGHTS

PRE- AND POST- CONFERENCE WORKSHOPS
Monday, May 1 and Thursday, May 4
Attendees may choose from a variety of pre- and post- conference workshops covering GIS and related technologies, with options for all skill levels.

PLENARY SESSION
Tuesday, May 2, 9am–12pm
Tom Jentz, Director of the Flathead County Regional Development Office, will present the welcome address. The keynote speakers will include S.J. Camarata, Jr. of the Environmental Systems Research Institute, Inc., and we are also pleased to have Steven L. Hock of The Chaordic Alliance.

PUBLIC NIGHT
Monday, May 1, 6-9pm
Public Night is a great opportunity for GIS Professionals to showcase their work for the general public. The event is free and open to anyone that would like to attend. There will be several geography and mapping activities for a variety of K12 skill levels, with small prizes for all K12 participants and a few large prizes for the lucky K12 lottery winners.The Physical GIS Toolbox and Curriculum Guide (available to any Montana K12 teacher) will be showcased. Public Night promises to be bigger and better than ever in 2000—plan to attend!

POSTERS AND ELECTRONIC DISPLAYS
Monday-Wednesday
For the first time at a Montana conference we are including Internet Mapping Applications in the poster session. During Public Night, posters and electronic displays will be judged and awards given. All categories will be judged separately according to whether they were submitted by students or professionals.

EXHIBITORS
Monday-Wednesday
Wonder how to add that special component to your GIS? Ask the experts! Exhibitors from all over the Pacific Northwest and Canada will be showcasing the latest technology and services offered in the field of GIS.You won't want to miss meeting with these companies and individuals, which include software vendors, hardware vendors, consulting firms, organizations (nonprofit groups), and vendors of related products and services.

Conference Scheduled Events

MONDAY, MAY 1
PRE-CONFERENCE WORKSHOPS
8am–5pm

PUBLIC NIGHT
7–9pm

TUESDAY, MAY 2
WELCOME AND KEYNOTE ADDRESSES
8am–12pm

CONCURRENT SESSIONS
1:30–5pm

BANQUET AND ENTERTAINMENT
7:30pm–Midnight

WEDNESDAY, MAY 3
CONCURRENT SESSIONS
8am–5pm

THURSDAY, MAY 4
POST-CONFERENCE WORKSHOPS
8am–5pm

Welcoming and Keynote Addresses

TOM JENTZ
is the Director of the Flathead Regional Development Office with a staff of 12. This office provides land use planning services to the three cities of Kalispell, Whitefish, and Columbia Falls and to Flathead County.

S.J. CAMARATA, JR.
is the Director of Corporate Strategies at ESRI, Inc. He works closely with ESRI's CEO and focuses on ESRI's worldwide corporate strategies and directions. He has been one of ESRI's key executives and has been instrumental in its growth and development since he started with the company in 1984.

STEVEN L. HOCK
began working with The Chaordic Alliance (TCA) in the 1990's, a nonprofit 501(c)(3) corporation created to develop, disseminate and implement new concepts of organization which more equitably distribute power and wealth and are more compatible with the human spirit and biosphere. He is currently working with TCA on major organizational efforts in the fields of health care, geo data mapping, fisheries and agriculture, and project management.

PRE-CONFERENCE WORKSHOPS

MONDAY, MAY 1, 2000

A GIS User's Practical Projections Primer
Monday, May 1 • 8am–12pm or 1–5pm ($25)
Instructors: Gerry Daumiller of the Natural Resource Information System and Bryant Ralston of ESRI-Olympia
Maximum 25/session

Confused about map projections? If so, this is the workshop for you. An understanding of the sometimes puzzling world of map projections is crucial to success with GIS. Central in creating, updating, utilizing, or cataloging geographic data, map projections are a practical and conceptual issue for every GIS user. This informal half-day workshop is meant to provide useful conceptual and practical information for understanding map projections and their effective use.

Topics Include:
Geographic and projected coordinate systems • Understanding and predicting distortion • Choosing the right projection • Performing projections • Determining a geodataset's projection • Geographic transformations • Datums • Finding true north • and, Projection tips.

Format will be part lecture and part instructor demonstration.

A Hands-on Guide to Understanding GMM
Monday, May 1, 8am–5pm ($50)
Instructor: Rick Breckenridge of Montana Mapping Associates and of Flathead County GIS
Maximum 20

The Geographic Measurement Management (GMM) software provides a rigorous, least squares analysis of measurement data. It is a dynamic means of generating geographic coordinate representation of the Public Land Survey System utilizing existing public information supplemented with either observed or digitized control. The software was designed to support the Geographic Coordinate Data Base (GCDB) project for the Bureau of Land Management. This software provides a powerful means of analysis when the end user understands what the data represents. Estimates as to the quality of the measurement data and the points that have been produced as a result of that data will enable GIS systems to build upon statistical reliability rather than mapping scales. As geographic coordinates are established for resource boundaries or sites, resource data can be merged with the ownership data because the information is located in the same compatible latitude and longitude system. Attendees will receive a CD with the GMM software and will walk through several real world applications.

GIS Data Maintenance Using Trimble GPS Equipment
Monday, May 1, 8am–5pm ($50)
Instructor: Chad Minteer of Electronic Data Solutions
Maximum 12

Attendees will get hands-on experience using Trimble's GeoExplorer 3 and Asset Surveyor 5 for the TSC1. Subject matter will cover the basics of Data Maintenance including the conceptual framework, and actual office and field techniques necessary to maintain GIS data with GPS technology from Trimble. Specifically, we will load GIS data back onto the GPS units, navigate to features, verify and update GIS attributes or GPS positions, map new features, and post-process data.

GIS for Students and Managers in Native American Government
Monday, May 1, 1–5pm ($25)
Instructors: Byran Marozas of the BIA Albuquerque Office and Jhon Goes of Innovative GIS Solutions
Maximum 35

GIS can be a helpful, though complex tool. Native people need an opportunity to understand the fundamentals of GIS in order to make informed decisions about implementing the technology. This workshop is designed to familiarize people involved in the management of Tribal resources with the basics of GIS technology and implementation. This workshop provides the participants with a background in GIS and integrates the cultural perspective of Native Americans into the technology.

Topics Will Include:
Defining and mapping space • Explaining GIS data models • Outlining correct database development tasks • and, Illustrating how GIS applications can be used to manage and protect native resources.

GIS Primer will be the used as a platform to discuss GIS applications appropriate for Indian Country.

The Intermountain GIS Users' Conference, May 1 – 4, 2000
REGISTRATION FORM

Name: _____

Organization: _____

Address: _____

Business Phone: _____ **E-mail Address:** _____

Check here if you do NOT want your contact information appearing on distributed lists of attendees: _____

All Speakers Must Register for the Conference

CONFERENCE REGISTRATION FEES

_____ $125 Advance conference registration. Registration must be postmarked by April 10th.
_____ $150 Conference registration after April 10th.
_____ $ 75 Single-day registration.
_____ $ 75 Student registration for full conference (student ID required). See conference announcement for more information.

Check your meal preference[1] for Tuesday night's banquet: Top Sirloin____ Cranberry Chicken Breast ____ Pasta Primavera ____

NO REFUNDS AFTER APRIL 24, 2000

WORKSHOPS

Workshops fill up quickly, so please indicate your first and second choices by marking "1" & "2". We cannot guarantee your choices. Requests are processed on a first-come, first-served basis, although registered conference participants receive preference.

Pre-Conference Workshops - Monday, May 1, 2000

_____$25 Projections, 8am – 12pm (max. 25)
_____$25 Projections, 1pm – 5pm (max. 25)
_____$50 Understanding GMM, 8am – 5pm (max. 20)
_____$50 GIS Maintenance Using GPS, 8am – 5pm (max. 12)
_____$50 Grants Development, 8am – 5pm (max. 50)
_____$25 GIS for Students and Managers in Native American Government, 1pm – 5pm (max. 35)
_____$50 Introduction to GIS, 9am – 4pm (max. 40)
_____$25 Publish Your GeoSpatial Data on the Web, 9am – 12pm (max. 50)
_____$25 Secrets of the ArcView Zen Masters, 8am – 12pm (max. 40)
_____$25 Secrets of the ArcView Zen Masters, 1pm – 5pm (max. 40)
_____$25 Using Microsoft Access to Supplement Your GIS, 8am – 12pm (max. 20)

Post-Conference Workshops - Thursday, May 4, 2000

_____$50 Advanced ArcView Tips & Tricks, 8am – 5pm (max. 20)
_____$50 Bayesian Modeling, 8am – 5pm (max. 24)
_____$25 Geographic Analysis with Arc 8, 8am – 12pm (max. 40)
_____$50 GIS/GPS Integration, 8am – 5pm (max. 12)
_____$25 Introduction to GeoDatabases, 1pm – 5pm (max. 40)
_____$50 Remote Sensing Fundamentals, 8am – 5pm (max. 20)

PAYMENT:

Conference Registration $_____ T-Shirt Size (Circle One): S M L XL XXL

Workshop Registration $_____

Total Enclosed $_____

Make Check or Money Order[2] payable to "**Montana GIS Users 2000 Conference**", and send with this form to:

Maitland & Associates Inc.
3250 Foothill Road Ph: 406-755-8687
Kalispell, Montana 59901 Fax: 406-755-8686

[1] If you have specific dietary requirements, please describe them on the back of this form.
[2] We can process federal or state agency purchase orders. We cannot accept payment via credit card

Grants Development

Monday, May 1, 8am–5pm ($50)
Instructor: Victoria Cech, Director of Grants Development at MSU-Billings
Maximum 50

This one-day workshop, sponsored by MSU-Billings, is intended to provide beginning and novice grant writers with the information they need to get started.

Topics Covered Will Include:
Definition of a grant • How to research grants and the organizations that make them • Using the Web to research funding opportunities • Contacting funders • Preparing and outlining a federal and a foundation proposal • Developing a budget for both foundation and federal proposals • and, Planning to ensure that receiving a grant is not the worst good news your organization ever receives.

Material presented in the workshop will be useful to all those involved in the development and planning of a grant-funded project. Materials provided will include sample budget formats, sample proposal guidelines, a list of useful web sites, and ordering information for "The Montana Foundation Directory."

Introduction to GIS: Basic Concepts

Monday, May 1, 9am–4pm ($50)
Instructor: Allan Cox of Boreal Geographics, LLC
Maximum 40

Introduction to GIS: Basic Concepts is designed for new or novice GIS users who want an introduction to the basic concepts and fundamentals of GIS. The workshop is NOT a software training course. The workshop provides an overview and introduction to GIS; review of spatial data principles; and an introduction to GIS functions, GIS data types, database creation, and spatial analysis.

This workshop is a good introduction to the concepts and ideas that will be discussed during the subsequent conference. Participants will receive a CD with various free GIS related software, data, and reference documents as well as a notebook with all of the workshop material.

Publish Your Geospatial Data on the Web: Intranet/Internet Solutions

Monday, May 1, 9am–12pm ($25)
Instructor: Dan Berman of Autodesk
Maximum 50

The Internet has opened the door to new and innovative ways of managing information. Web-based technologies have emerged as an efficient way for public agencies and private business to plan, manage, use and distribute geographic information both within and beyond the organization.

Can this be accomplished using industry standard tools? The answer is YES! This workshop will focus on the dilemma facing GIS professionals as we attempt to leverage our existing sets of rich data, which have been painstakingly created and maintained over the years in traditional CAD/GIS software applications. The challenge we will examine is how to successfully meet the diverse information needs of both our IT/IS colleagues, and the user community within and outside of our public agencies and private organizations.

Secrets of the ArcView Zen Masters: Tips and Tricks with AV 3.2

Monday, May 1 • 8am–12pm, or 1–5pm ($25)
Instructor: Ed Madej, Natural Resource Information System
Maximum 40/Session

ArcView version 3.2 brings more power to the world's most popular desktop GIS program. Add a dozen low cost or free extensions, and you have an unbeatable geoprocessing and mapping package. This lecture and demonstration will stress tips and tricks with ArcView that will make your GIS work easier and more productive.

Topics Include:
- Practicing safe AV computing: making portable projects and auto-backups, how to wreck an AV project.
- Geoprocessing: Using Xtools, the AV geoprocesser, and the Spatial toolbox.
- Slicing and dicing geodata with the Legend Editor.
- Table Tricks: Using Avenue scripts with the Field Calculator.
- Cartography: Cool legends and good colors on your map. Text labeling that works, with AVALabel. Making great maps for the Web and for publishing. And more!

Techniques for Using Microsoft Access to Supplement Your GIS

Monday, May 1, 8am–12pm ($25)
Instructor: Jeffrey Hutten of Montana Fish, Wildlife & Parks
Maximum 20

This half-day lab oriented workshop is limited to a maximum of 20 persons. Participants are expected to have at least an intermediate level of experience with Access including a familiarity with: Access user interfaces, table and query creation, table relationships, and creating forms and reports using the wizards. The attendees are also expected to have a basic understanding of GIS overlay analysis procedures such as intersect, identity, and union.

This will be a hands-on workshop with participants engaging in numerous exercises designed to highlight the many uses we have found for this powerful database manager.

POST-CONFERENCE WORKSHOPS

THURSDAY, MAY 4, 2000

Advanced ArcView Tips & Tricks, Working with Montana Geographic Data

Thursday, May 4, 8am–5pm ($50)
Instructors: Ed Madej of the Natural Resource Information System and Lydia Bailey of Montana Fish, Wildlife & Parks
Maximum 20

This workshop is designed for the experienced ArcView user. Students interested in attending should have completed ESRI's "Introduction to ArcView GIS" course, be very familiar with ArcView's graphical user interface (GUI).

Topics Include:
- Working with existing geographic data available from the Natural Resource Information System (NRIS) and Montana Fish, Wildlife & Parks (FWP)
- Utilizing ArcView extensions
- "Safe" ArcView computing skills
- Advanced symbolizing and cartographic skills
- "Slicing and dicing" data with ArcView Tables
- Using SQL connections to connect to Microsoft Access.

Bayesian Modeling with ArcView GIS

Thursday, May 4, 8am–5pm ($50)
Instructor: Richard Aspinall of the Geographic Information and Analysis Center (GIAC), Montana State University
Maximum 24

This course introduces a method for modeling distribution based on Bayes Theorem. It is designed to reveal the basis for, and operation of, Bayesian modeling as well as guiding attendees through the process of creating Bayesian models in ArcView. The course mixes lecture, discussion, and hands on exercises. The exercises use examples drawn from analysis of wildlife distribution in relation to environmental factors although the application of the method is much wider and can be used to model the distribution of many phenomena.

Specific Objectives:
- To expose attendees to Bayesian approaches to the derivation of habitat associations of plants/animals using thematic maps of varying resolution and spatial scales.
- To examine implications for predictive modeling of animal and plant distributions.
- To assess implications of the techniques and prevailing data quality for survey design and conservation planning.

Attendees should be familiar with ArcView GIS and with the Spatial Analyst extension.

Geographic Analysis with ARC 8

Thursday, May 4, 8am–12pm ($25)
Instructor: Jack Horton of ESRI-Olympia
Maximum 40

Arc/Info version 8 is a new paradigm for geographic data analysis and management. We will cover various types of analysis from simple display and query to more complex spatial analysis.You will see how a database can be used for analysis by one user while it is being simultaneously edited by another user. This workshop will consist of lectures and demonstrations, using Arc/Info rev 8.

GIS-GPS Integration

Thursday, May 4, 8am–5pm ($50)
Instructors: Fred Gifford and Sally Staley of Maxim Technologies Inc., and Guner Gardenhire of Geoline Positioning Systems, Inc.
Maximum 12

GPS technology is one of the primary tools used for developing databases for use in GIS. While GPS technology has become easier to use, there are still many details involved with efficiently collecting high quality information for use in GIS. The workshop covers the step by step procedures required to setup and execute a professional GPS data collection plan.

Topics Addressed Include:
Pre-mission planning • Unit setup • Database design and setup • Data maintenance • Differential correction • Projections • and, Data transfer.

In the workshop will use technology from Trimble and ESRI. However, the methods presented will be applicable to other vendor's technology as well. The workshop will include both hands on exercises and classroom lecture.

Introduction to GeoDatabases

Thursday, May 4, 1–5pm ($25)
Instructor: Jack Horton of ESRI-Olympia
Maximum 40

In this session, you will learn the basics of database technology in general and geographic databases in particular. We will cover the integrated storage and maintenance of tabular and spatial data in a database.

Topics Include:
Transactional data management using database versions, management of spatial objects in a database, and managing database integrity using domains, subclasses, and relationships.

The format will be lectures and demonstrations, using an ArcSDE server with an Arc/Info client.

Remote Sensing Fundamentals and Applications

Thursday, May 4, 8am–5pm ($25)
Instructors: Dr. Lloyd Queen, Associate Professor, School of Forestry; Dr. Jerry Winslow, Andrew Weiss, and Michele Thornton of the EOS Training Center; Eva Karau and Steve Brown, Graduate Researchers at the University of Montana
Maximum 20

Digital Remote Sensing applications can offer regional to landscape "views" of the lands to which natural resource managers are stewards. The EOS Training Center at the University of Montana is housed within the School of Forestry and draws on the expertise of professors and researchers in areas of remote sensing and forestry/range land management. The workshop will consist of a half day addressing the fundamentals of remote sensing.

The last half of the day will be "hands-on" working with a popular remote sensing software to explore remote sensing applications relevant to natural resource management. Working with raster imagery from MODIS and Landsat 7, we will cover topics such as landcover characterization, vegetation indices (net primary productivity), and drought mapping. AVHRR data will be substituted if MODIS data is not available.

locations announced in workshop confirmation letters and at Cavanaughs, May 1.

Program Information

LOCATION

Cavanaugh's Inn, Kalispell Center
20 North Main Street, Kalispell, Montana

FEES

The conference fee covers all conference materials, a T-shirt, lunch and dinner on Tuesday and lunch on Wednesday. A no-host social will be held on Tuesday night after the banquet, with entertainment provided by Loose Caboose, a rhythm & blues/classic rock and roll band well known in the Flathead area.

A T-shirt is complimentary with each conference registration, including student and vendor registrations; proceeds will go directly to the GIS Users' Group education fund. T-shirts will also be available for purchase at the conference.

REFUNDS

Registration forms must be postmarked by April 10. Refunds will be provided for cancellations received by April 24, 2000.

Please register early.

LODGING

Blocks of rooms at special rates have been reserved for conference attendees at the following hotels:

- Cavanaugh's Inn, Kalispell Center*
  20 North Main Street
  406.751.5050 or 800.325.4000
- Outlaw Inn,* 1701 Hwy 93 South
  406.751.5050 or 800.325.4000
- Kalispell Grand Hotel,* 100 Main Street
  406.755.8100 or 800.858.7422
  (within walking distance to Cavanaugh's)

Additional hotels near Conference include:

- Hampton Inn, 1140 Hwy 2 West
  406.755.7900 or 800.426.7866
- Four Seasons Motor Inn, 350 North Main
  406.755.6123 or 800.545.6399
  (within walking distance to Cavanaugh's)
- Motel 6, 1540 Hwy 93 South
  406.752.6355
- Montana Reservation Central
  406.862.7589

*** To receive your special price rate, remember to identify yourself as a GIS conference participant when making your reservations.**

Scholarships Available!

Twenty students are eligible to receive full **Scholarships** to the conference. Complimentary one-day registrations or a workshop will also be awarded to interested K-12 teachers.

For more information, contact:

Mike Frankovich, 406.496.3745
email mfrankovich@mtech.edu

Information Contacts

Program Content Gretchen Burton, 406.994.6921
email burton@guava.giac.montana.edu

Poster Sessions Hans Zuuring, 406.243.6456
email hrz@forestry.umt.edu

Public Night Kris Larson, 406.444.5691
email klarson@state.mt.us

Workshops Bob Holliday, 406.444.0770
email rholliday@state.mt.us

Exhibitors Catherine McCoy, 360.754.4727
email cmccoy@esri.com

Concurrent Sessions Margie Lubinski, 406.329.3743
email mlubinsk/r1_lolo@fs.fed.us

The GeoSpatial NEW WEST Conference

INTERMOUNTAIN GIS KALISPELL 2000

Maitland & Associates, Inc.
3250 Foothill Road
Kalispell, MT 59901

Awards Program

By: David DelSordo

The Montana GIS Users' Group is a statewide consortium of Federal, State, Local, Tribal, University and private entities engaged in GIS technology. The Group's purpose is to provide a forum for exchanging information and ideas on GIS. It is a non-profit organization; any funds generated by Group activities are fully invested in projects that serve the Montana GIS community. Over the last decade, the Group has developed a number of educational outreach programs, including scholarships, lessons and equipment for teachers, and web-based teaching tools.

Recognition of an individual's achievements is an important part of our professional development. The Board of Directors of the Montana GIS Users' Group has authorized an Awards Program to recognize outstanding contributions by its members. The awards will be presented at the GIS Conference in those years when the Conference is held in Montana (even numbered years). In 2000 there will be two awards: the Education Award and the Career Achievement Award.

The Education Award will honor a member who has made a significant contribution to the Group's Education goals. The Award will recognize the member's work to increase the knowledge and understanding of teachers and students of the GeoSpatial Sciences. The awardees will have been a member of the Education Committee, been active in Public Night, and worked actively with teachers or students on GIS projects.

The Career Achievement Award will honor a Member who has made a significant contribution to the GeoSpatial Sciences profession in Montana. The awardees may have mentored students, worked on conference planning committees, worked on the Education Committee, or participated in outreach to political leaders and other professions. The Career Achievement Award will show our appreciation for consistent dedication to the goals and programs of the Montana GIS Users' Group. This member will also have played a role in the growth and development of the GeoSpatial industry and profession in Montana.

If you would like to nominate a member for either of these Awards, please contact David DelSordo at, david_delsordo@nps.gov or 206-220-4071 Lance Clampitt at lsclampitt@usgs.gov or 303-202-4514. Please let them know whom you would like to nominate, specify Education or Career Achievement Award, and state the reasons they deserve the award. ■

Bio Control and GIS

By: Linda Weaselhead

In 1994 the Confederated Salish and Kootenai Tribes put in place an integrated weed management plan. As part of this plan, biological weed control agents (insects) were released in many locations across the reservation. The agents feed on various parts of the weed, usually the seed heads or the roots, causing weakening of the plants.

In May 1998, Salish Kootenai College joined the Tribe to monitor the bio control release sites. The Tribe's Weed Department consisted of one full time staff, and other duties did not allow time for monitoring release sites. Since there is still much that we do not understand about the different agents, it is important to monitor the sites to observe the success or failure of the agents in a habitat.

A common problem in monitoring these sites is finding them. Personnel changes and poor record keeping are problems. Fifty to 200 insects can be hard to find in a large field of weeds. We came up with four ways of overcoming these problems:

1. A fence post was placed at the center of each site.
2. Photos were taken in all four directions from release center.
3. Photocopies of topo maps were marked with site locations.
4. Sites were GPSed and these files were converted to GIS files

Each of these methods has good and bad points. Fence posts are easy to see but can be taken; we have lost one so far. Photos need to include a tree, large rock or some other item that helps pinpoint the location and direction. Photos are valuable to show impact on the target weed over several years. Photocopied topo maps can be hard to read. GPS/GIS required more time and work but could be used in many ways.

GPS readings were recorded using a Trimble GPS unit and corrected using "Pathfinder Office" software, which we had just purchased and really did not understand. It was then converted to ArcView. The first year we had data in several different "themes", the "Site names" were listed as "Location" and "Comment" and the data had to be merged using the geoprocessor in ArcView. I added a field to the tables for the target weed. In 1999 we used a data dictionary written for the project and saved a lot of time. We are now able to see where we had made releases and can also view releases sorted by target weeds. As more data is gathered, more fields can be added so that we can see when the insects are doing well. ■

GIS Day 1999

By: Kristina Gurrieri

The inaugural GIS Day was held November 19, 1999. This global event gave users of GIS the opportunity to open their doors to schools, businesses, and the general public to showcase real-world applications of this growing technology.

GIS Day, a grassroots event, is an extension of the National Geographic Society's Geography Awareness Week. The goal of GIS Day is to create a single, annual, worldwide event that effectively communicates the benefits and significance of GIS to both children and adults. There are currently more than 2,000,000 GIS users in the world, but most of the public is unaware of this growing technology. GIS Day is an opportunity for people to learn more about GIS and its role in society.

There were a number of GIS Day events held throughout Montana. One such event was held in Helena where a group of folks from the Department of Administration, Lewis & Clark County, Montana Department of Natural Resource and Conservation, Montana Department of Transportation, Montana Fish Wildlife and Parks, Natural Resource Information System, Tetra Tech, and Western Water Consultants hosted a GIS Day Open House at Ray Bjork Technology Center. During the day, 104 students plus their teachers and some of their parents attended the open house. There were five classes - two third grades, two fourths, and one fifth grade - scheduled for one hour time slots during the school day so that all could get some hands-on experience. Six different activity booths were setup varying from "Ask Dr. GIS", "Pick & Plot a Map", "Scavenger Hunt", "Where in Montana am I?", "Make & Print Out Your Own Map", and "Routing on Montana Highways." In addition to these activities there were displays from area GIS professionals along with maps and posters explaining GIS, and a computer lab was available with web sites bookmarked so that students could readily find GIS info over the Internet. From 3:00 pm till 7:30 pm the open house hosted the general public. Over fifty persons attended and all left with a better understanding of what GIS is and how it affects their everyday lives. Several map galleries were setup during Geography Awareness Week throughout the Helena area at schools, public libraries, and the shopping mall.

For information on similar GIS Day events held throughout Montana check http://nris.state.mt.us/wis/mtgisday.html. ITWG hosted a virtual map gallery http://www.forestry.umt.edu/itwg/gallery/default.htm for those unable to attend a GIS event. For national and global information check http://www.gisday.com/.

The next GIS Day will be held Wednesday, November 15, 2000, during Geography Awareness Week, November 13-17, 2000. Check the web sites as the date gets closer to learn more about the plans for the GIS Day 2000. You may want to attend an event or participate in hosting one. ■

Digital Atlas of the Greater Yellowstone Area Debuts on GIS Day, 1999

By: Gretchen Burton

Among the GIS Day events held at the Geographic Information & Analysis Center was the official release of the Digital Atlas of the Greater Yellowstone Area. The Digital Atlas was developed under the Aurora Partnership, a public/private collaboration established in September of 1998 to promote the design and production of decision support systems for use by natural resource management agencies. The US Geological Survey and ESRI produced the Atlas with contributions from Montana State University, the University of Wyoming, the US Forest Service, the National Park Service, Gallatin County, the City of Bozeman, and others. ESRI also donated the ArcView Data Publisher software licenses for the compact disks, which provide a read-only version of ArcView 3.1. The Atlas resides on two CDs and contains more than 440 spatial data layers covering portions of Montana, Wyoming, and Idaho. Featured study areas include Yellowstone National Park, Grand Teton National Park, the Bridger-Teton National Forest, Gallatin County, and the City of Bozeman.

A limited number of the Digital Atlases will be available at the Intermountain GIS Users' Conference in Kalispell, May 1st – 4th, 2000. An online version of the Atlas is now under development and will ultimately replace the CD version; go to http://mapserver.giac.montana.edu/gyaatlas/welcome.html to explore the available data. This online Atlas will continue to be developed under the auspices of the Greater Yellowstone Area Data Clearinghouse (http://sun1.giac.montana.edu/gyadc/gyadchome.html) at Montana State University. ■

Who Will Control the GIS? Part I *By: Rick Breckenridge*

The cut line for the lead story for the November 1999 issue of *Professional Surveyor* reads: "Who will control the GIS?". This is the question that the surveying community wants answered and the question will not go away until the surveyors hear the right answer.

This article did not appear by happenstance. The opinion expressed is not an isolated point of view. Most GIS professionals are quietly doing their jobs and are oblivious to the national debate heating up. At the heart of the debate is the demand by the surveyors that a GIS be controlled by a surveyor. The fight along this front is being promulgated by every publication or organization that provides a forum for surveyors to air their concerns.

The ammunition for this fight comes from the California board of registration. In July 1998, that board ruled that GIS was in fact surveying and therefore, in California, must be under the direct control of a licensed surveyor. With this decree in hand, the California delegation lead a charge on the National Council of Examiners for Engineering and Surveying (NCEES) to incorporate their ideology into the Model Law Definition of the Practice of Land Surveying. With the Model Law up for review this past September, the California Land Surveyors' Association (CLSA) feared that a separate, geomatics-based profession would result. In the October, 1999 issue of *Point of Beginning* (POB), Steve C. Wilson, immediate past president of CLSA, argued "that when GIS *practitioners* are issued licenses as Professional Surveyors, it would imply that a GIS would then comply with National Map Accuracy Standards." (Emphasis mine.) The article continues: "Although this should be the norm for any GIS, he said, only Professional Land Surveyors are qualified to make that assessment."

GIS is not the first professional field that has drawn the attention of CLSA or NCEES. In the early '80's, the field of photogrammetry came into the sights of land surveyors. The fight that ensued with this debate nearly destroyed the flagship of the land surveying community, the American Congress on Surveying and Mapping (ACSM). After the dust settled, photogrammetrists had agreed to a national certification program. This is a voluntary program and not required by law. This capitulation, however, has not completely satisfied all of the surveying organizations. In California, you guessed it, only a licensed surveyor can practice photogrammetry. The certification, in their opinion, does not provide enough protection or assurance of competency for the general public.

Now the surveying community is looking for elsewhere to satisfy their endless desire to *control* the world. The same tactics are being deployed that worked against the photogrammetrist. In the *Professional Surveyor* article mentioned above, author Fred Henstridge argues: "Once a rubbersheeted GIS database is complete, it is not a distant step to begin printing maps or giving data to the public. Even with disclaimers as to the accuracy or reliability of the map, *the public will not be well served*." (Emphasis mine.)

The quotations that I have sited, in my opinion, show a lack of education about GIS issues among these publications. For instance, labeling a GIS database as "rubbersheeted", implies that a data set lacks sufficient control when originally developed. This simply isn't true. GIS parcel data sets are built from deeds, not surveys. Rubbersheeting is a process utilizing least squares theory to minimize the error that is inherent in all measurements. Statistical reliabilities then tell the users if this data set will met the needs. These reliabilities serve in the same manner as do ingredient labels on consumable products. The public makes an informed decision based on the label. This method has served the public well for many years. Reliabilities work the same way. Again, labels without education promote fear.

Fear is another avenue utilized in these publications. "Service to the public" is a noble, overworked metaphor. The public has neither the time nor the ability to piece together hundreds of deeds in order to understand a neighborhood plan. Counties need the ability to communicate these plans to better serve the public. The GIS is the perfect tool.

The argument that only surveyors can apply national map accuracy standards is fallacious. These standards were developed by photogrammetrists and have been ably applied by cartographers for years. The *current* National Map Accuracy Standards were adopted in 1947 and have proven to be insufficient. These insufficiencies have lead to the development of additional standards by the Federal Geographic Data Committee.

I bring these two points to the attention of the Montana GIS Users' Group for several reasons. It is my intent to educate and activate GIS professionals as to the events that are out of their immediate sphere of information. It is also my intent to bring together cartographers, geographers, data base managers, geodesists, photogrammetrists, software programmers, and land surveyors to understand that a GIS is the result of all of these disciplines combined without domination by a single profession or subjected to the regulations of any one group. Fear is simply the absence of knowledge. We can be alienated by the ignorance of others or we can choose to help develop a solution. ■

Digital Raster Graphics Change Mapping

By Ed Madej

The USGS DRGs, called Digital Raster Graphics, are changing the way mapping is done, both on and off the web. The DRGs are scanned, georegistered images of USGS topographic maps. Three scales of DRGs are available at NRIS the 1:250K, 1:100K and the popular 1:24K.

DRGs can be viewed and printed directly from web using the new NRIS Topo Finder at: http://nris.state.mt.us/topofinder.html. You can enter township, range and section numbers and the Topo Finder will zoom to that location on the 1:24K quad map for you, plus identify the point by latitude longitude, state plane and UTM cordinates. The next version of the Topo Finder will search by latitude longitude coordinates as well as township and section. The resulting image can be saved as a GIF file or printed directly from your web browser.

If you go to the main DRG web page at http://nris.state.mt.us/nsdi/drg.html you can view and scroll through all of the DRGs available and download the files to use on your computer in two different formats; georegistered TIF files or compressed MrSID image files. You can use these files with ArcView 3.2, or ArcExplorer 2.0 from the Environmental Systems Research Institute, (ArcExplorer is free from http://www.esri.com). You can view and translate MrSID files into TIF files using the MrSID Standalone Viewer available for free from Lizard Tech (http://www.lizardtech.com).

The DRGs are great when used as background images in ArcView maps, or as images popped into presentation programs such as Microsoft PowerPoint. With the DRGs as a base, you will never be lost in Montana again, at least if you have your computer with you! ■

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to K-12 Teachers in Montana
Call 406-994-6921 for More Information

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